

TRANSPower NEW ZEALAND LIMITED

Submission to the Electricity Authority on Consultation Paper – Dispatchable Demand

August 2011

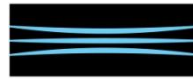


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Executive summary

Transpower actively supports the development of demand side response initiatives in the wholesale electricity market. The implementation of dispatchable demand (DD) is a logical follow-on to the demand side bidding and forecasting (DSBF) initiative currently being implemented by the System Operator. Although DSBF has been the subject of a lengthy, extensive and detailed consultation with the electricity industry, regrettably the industry has not been accorded the same degree of involvement with the DD initiative.

The draft Code provisions provide the industry with its first opportunity to consider the proposal in detail; previous DD consultation documents have outlined only a theoretical DD design. Inevitably, this compressed timing materially reduces any opportunity for in-depth review and recommendations of significance. It also means there is no opportunity for cross-submissions to allow the industry the opportunity to comment on issues raised by other participants. In addition, we are concerned that, in the absence of a detailed design assessment, the industry cannot be certain that the proposal at this stage is operationally practicable.

Transpower believes the DD proposal should be more extensively reviewed, even if that means not meeting the 1 November 2011 date for having the required changes incorporated into the Code. In that regard we note that the Acting Minister of Energy was recently reported as saying in regard to the Section 42 initiatives that "There is discretion in that time line if we think more time will be needed."¹

There is provision in section 42(3) of the Electricity Act 2010 (the Act) for the Authority to provide a report to the Minister identifying progress and setting out when and how the new matters specified in section 42 will be provided for, if amendments to the Code have not been made by 1 November.

The DD proposal is overly complex. Simpler options building on the features of the DSBF design are available and should be pursued. Transpower concludes that the core requirements for greater demand-side involvement can be met through DSBF and extended through a reconsidered DD design and implementation. Transpower encourages the Authority to adopt this option.

The consultation paper includes a large number of changes to Section 13 which relate to fundamental aspects of the market and which are not a necessary part of the DD implementation. While we recognise that modification to the Code is necessary to include demand side bids, many of the wholesale changes proposed are not appropriate and not required to implement DD (in the form proposed, or in a less complex form). These additional non-DD Code changes have proved a considerable distraction when reviewing the consultation document. Transpower strongly recommends that the changes which do not relate to DD directly be removed from the code to be gazetted. This will enable appropriate review of this proposed code, which contains material defects that Transpower has been unable to assess properly or address in the time available for this consultation.

¹ *Energy News*, 9 August 2011.

1 Introduction

This is Transpower New Zealand Limited's submission on the Electricity Authority's 13 July 2011 consultation paper *Dispatchable Demand*.

1.1 Context

Transpower recognises the considerable effort expended by the Authority to develop Code provisions for the Dispatchable Demand (DD) proposal. Until publication of this consultation document, the DD proposal was only conceptual. Consequently, the step represented by the consultation paper – from concept to detail, including Code provisions – is a substantial one.

While the design itself has only been previously assessed by the industry at a high level, the complexity of the draft Code provisions presupposes that a detailed design has been assessed and consulted industry-wide. This is not the case.

This consultation paper is the first to contain Code drafting and is therefore the first opportunity for the industry to comment on the proposed DD design. We are concerned that the timeframe of this final consultation has left no opportunity for cross-submissions, meaning industry members will be unable to comment on issues raised by other participants.

Regrettably, it seems likely that the Authority's desire to gazette the Code by a specified date will mean the issues raised in any submissions to this consultation (including Transpower's response) may not be able to be taken appropriately into account. In light of the Acting Minister of Energy's recent public statement in regard to the Section 42 initiatives that "There is discretion in that time line if we think more time will be needed."², the adherence to a tight timeframe is not required.

There is provision in section 42(3) of the Electricity Act 2010 (the Act) for the Authority to provide a report to the Minister identifying progress and setting out when and how the new matters specified in section 42 will be provided for, rather than actually make amendments to the Code by 1 November.

Transpower has considered the proposal as it stands and provided feedback on the high level design. However, as the implementation of DD is currently scheduled for 2013, we hope the intervening period between now and implementation presents an opportunity to develop and simplify the DD design. Transpower believes the core requirements of a demand side initiative are met through DSBF and these could be extended through a reconsidered and simpler DD design. Transpower encourages the Authority to adopt this option.

Another advantage of adopting a staged approach is that the DSBF Code changes could be made before the DD changes are made on top of them. The consultation on the DD changes assumes that the DSBF changes originally proposed have been made when there may, in fact, be material changes made to the final DSBF Code. The DD changes should be considered against an established baseline, not an assumed one.

² Energy News, 9 August 2011.

1.2 Structure of Transpower's response

Transpower's response is structured as follows:

- Executive Summary (above)
- Section 1: Introduction
- Section 2: Dispatchable Demand
- Section 3: Other Section 13 code changes
- Section 4: Complexity
- Section 5: Transpower's responses to the questions in the consultation document
- Section 6: Detail Code changes

2 Dispatchable Demand

Section 6 of this submission lists the areas in the DD proposal directly related to DD which require clarification or cause concern. This section 2 is a summary of the key concerns.

2.1 Co-optimisation of dispatchable demand with interruptible load

2.1.1 The consultation paper proposes that purchasers that offer dispatchable demand and also offer interruptible load (IL) into the market should be able to choose to have these two products co-optimised by the System Operator's scheduling, pricing and dispatch (SPD) model. There should not be choice; co-optimisation must be compulsory. Security of the power system requires all IL offered into the market to be available if cleared. Without co-optimisation, the SPD model cannot effect a solution if it is unaware whether the load it has dispatched off was also the load needed to meet reserve requirements.

Recommendation

- co-optimize dispatchable demand and IL for all purchasers that offer both types of load into the market. Such co-optimisation to be an essential and mandatory design element.

2.2 Approval of a dispatch-capable load station

2.2.1 Schedule 13.6 sets out a number of requirements that the System Operator must consider when granting approval to a purchaser with a dispatch-capable load station (DCLS). This is equivalent to the System Operator's approval of a generator asset capability/commissioning plan prior to commissioning; this approval requires an applicant to demonstrate compliance with a set of specified technical codes. In the same way, approval of a DCLS must also be against a set of technical codes which clearly define the obligations and technical standards each dispatchable load purchaser is required to comply with in order to enable the System Operator to plan to comply with, and actually comply with, the principal performance obligations. Such technical codes must be included in the final DD Code changes. The Authority, in conjunction with Transpower, will need to develop, consult on, and publish the necessary technical codes as part of the preparation for implementation of the initiative.

2.2.2 The proposed Code requires a dispatch purchaser to provide metering information to the Grid Owner and the Pricing Manager, though only for trading periods where the dispatch load station (DLS) is dispatched. From a data processing point of view a continuous stream of data is required between known, approved dates. As with generation information, it needs to be mandated that DLS metering data must be provided from the agreed approval date until the approval is revoked or withdrawn. Without a continuous data stream between approved dates a complex system to compare dispatch instructions with received data will be required to ensure all information will be treated correctly. Backup requirements for the data supply must mirror those imposed on generators and ancillary services

providers. These requirements must be met as part of the approval process.

- 2.2.3 As part of the approval procedure, the process should take account of all the necessary information provisions imposed on the purchaser. As written, the approval process focuses on the System Operator's requirements only. However, a number of the requirements of a DCLS under part 13, such as the dispatch purchaser's obligation to provide metering information under 13.141, relate to obligations to other participants. Final approval of a DCLS cannot be granted until the necessary provisions relating to all affected parties are satisfied.
- 2.2.4 All parties that use information relating to a DCLS need to be informed that approval has been sought for a new load station, in order for these parties to prepare their systems. Such parties include the Grid Owner, Pricing Manager, Reconciliation Manager and Clearing Manager.
- 2.2.5 The consultation paper states that, if a DCLS changes ownership, the DCLS approval status will be transferred to the new purchaser owning the DCLS. All obligations of the DCLS lie with the purchaser; therefore a change of purchaser moves the obligations from the party originally approved by the System Operator to a new purchaser. This is undesirable; a transfer of ownership should be required to be approved by the System Operator to confirm that all requirements are still being met.

Recommendations

- develop technical codes to provide the standards required for a purchaser's DCLS; (The Authority in conjunction with Transpower)
- ensure DLS purchasers provide all metering information (whether dispatched or not) from the agreed approval date until the approval is revoked or withdrawn. Back up data supply arrangements should mirror the requirements on generators and ancillary service providers;
- ensure DCLS obligations to all participants are included as part of the approval process;
- ensure the DCLS approval process is signalled to all parties that need to take account of the introduction of a new DCLS;
- require a review of DCLS approval if a DCLS changes ownership.

2.3 Format of interruptible load bid

- 2.3.1 The current drafting of the IL bid forms does not reflect the way in which IL works. Submitting an IL bid as a percentage of a scheduled bid quantity does not reflect any actual or likely physical scenario. This form of offer is suitable for partly loaded spinning reserve (PLSR), which models machine capability, but not for a specified load. Removal of the percentage format of an IL bid means the two forms – Form 6 and Form 6A in schedule 13.1 – will contain information in the same format and can be amalgamated.

Recommendations

- remove the ability to bid IL as a percentage of a scheduled bid quantity;
- amalgamate forms 6 and 6A to be one form – in the format of 6A – and identify on the form the dispatch capable load identifier where applicable.

3 Other Section 13 Code changes

Transpower does not agree that comprehensive changes are necessary to Section 13 for implementation of the DD proposal to proceed. The focus of the industry (including Transpower) is on the Section 42 initiatives. Non-DD code changes are a distraction from these key pieces of work. Transpower strongly recommends that only changes relating to DD are gazetted into the Code at this time.

We have, however, carried out a high level review of the changes and identified a number of areas that require clarification or cause concern. Section 6 of this submission lists such areas. This section 3 is a summary of the key concerns.

Recommendation

- do not include the non-DD Code changes in the Code that is gazetted on 1 November 2011.

3.1 Objective function

3.1.1 The objective function of the System Operator's SPD model is the fundamental basis of dispatch. It is important this is expressed as clearly as possible. In an attempt to make the objective function more easily understood, the proposed drafting removes a mathematical expression and replaces it with a non-mathematical formula using unclearly defined terminology. This has not made the understanding any clearer, and, in fact, has created ambiguity by comparison with the previous mathematical formulation.

3.1.2 The mathematical expression exists within the model formulation. Instead of replicating this in the Code, the Code should reference the model formulation. What should be in the Code are words that describe the general intent of the objective function. The description should not try to define how the formula works but instead describe the desired outcome.

Recommendations

- replace the mathematical formula of the objective function in the Code with a general statement of intent with a reference to the model formulation where the precise mathematical definition can be found;
- amend the objective function in the model formulation to reflect the changes necessary for DD design.

3.2 The dispatch schedule

- 3.2.1 The dispatch schedule is a 30 minute trading period schedule. RTD is a tool used by the System Operator to fulfil the dispatch objective for the intra half hour trading period. Dispatch instructions are prepared for every 5 minute period and generally, though not necessarily, issued every 5 minutes. RTD is one of the ways in which dispatch instructions are formed.
- 3.2.2 Renaming the dispatch schedule as the RTD schedule (when the dispatch schedule is only one of a series of RTD schedules) may cause confusion. To be satisfied that all uses of the term RTD schedule are appropriate, the System Operator would need to perform a detailed review of the appropriate sections before the Code relating to the RTD schedule is gazetted. It is apparent from even a cursory review that the inputs to the RTD schedule do not accurately represent operational reality.
- 3.2.3 Crucially, the editing of the Code to remove some of the existing clauses in Section 13 has ignored the need to adjust the dispatch schedule via an iterative process. These clauses must be reinstated.

Recommendations

- in consultation with the System Operator, review the sections of the Code referring to the RTD schedule before the Code relating to the RTD schedule is gazetted;
- reinstate the clauses that recognise the need to adjust the dispatch schedule as an iterative process.

3.3 Publication of RTD schedules

- 3.3.1 Publishing prices from RTD schedules is a significant policy change. As currently drafted, prices would have to be published from all RTD schedules that are prepared, including those that are not dispatched.
- 3.3.2 Current operational practice is for RTD to run every 5 minutes for dispatch purposes, although there are exceptions to that practice. However, RTD is also run for specific requirements as a study tool where all other unaffected items in the schedule are not updated. In study mode the schedule may be run to see when the HVDC should be started/stopped/ turned around, what plant becomes marginal at higher loads, how much energy/reserve residual is available and where it is etc.
- 3.3.3 Clearly it is inappropriate to publish all (if any) prices from this second type of RTD, because participants could respond to pricing signals that do not reflect how system dispatch is actually being implemented.
- 3.3.4 The implications for Transpower's market system infrastructure to accommodate additional publication requirements have not been assessed.

Recommendation

- publish RTD prices only when an RTD schedule is dispatched.

3.4 Editing of existing Code

- 3.4.1 Editing of the existing Code has resulted in removal of a number of clauses, some of which have been replaced and others which have not. Regrettably, the consultation paper provides no audit trail of how or why these clauses have been shuffled or deleted. The impact of these changes is therefore harder to assess, and means unnecessary time is taken to replicate work the Authority has already undertaken.
- 3.4.2 In the future, Transpower would appreciate the provision of an audit trail to gain a better understanding of the operational effect of future changes to ensure unintended consequences are identified and corrected. This will become more of an issue when the combined effects of all the section 42 initiatives are placed in Section 13 of the Code.

Recommendation

- provide an audit trail for all comprehensive changes to the Code in the future.

4 Complexity

The consultation paper is the first time that the Code drafting has been available. Prior to this, the DD initiative was discussed only at concept level.

Transpower has already discussed a number of less complex options with the Authority. However, Transpower considers that the preferred design remains overly complex for what seems to be required.

Transpower's preference is for the implementation of DSBF to be given time to bed in operationally. This will provide experience of those aspects of the demand side initiative that work well and those that need to be reviewed. Once experience with DSBF is gained, the Code can be augmented with changes that enable a DD regime to be established.

As the DD implementation is currently scheduled for 2013, we hope the intervening period between now and actual implementation presents an opportunity to develop the DD proposals along these lines. The Authority is encouraged to consider this option, especially in light of the Acting Minister's clear desire for a quality outcome to be delivered.

Recommendation

- develop a simplified version of DD once experience is gained with DSBF;
- in any event, consider more simplified means to achieve the desired DD outcomes.

5 Questions raised in the consultation paper

Question number	Question	Transpower Response
1	Do you agree that it is appropriate to impose obligations relating to a DCLS on the purchaser rather than directly on the DCLS owner, considering that imposing obligations on the DCLS owner may involve proposing changes to the regulations?	<p>Yes.</p> <p>Therefore, if DCLS ownership is transferred to another purchaser, it is necessary for the System Operator to review the approval status of the DCLS.</p>
2	Is the proposed approval process appropriate? What parts do you agree or disagree with?	<p>The approval process needs to be accompanied by a set of technical codes. Approval of a purchaser should follow the same lines as approval of a new generator.</p> <p>The approval process must include all Code obligations of the purchaser – not just those relating to the System Operator.</p> <p>Participants affected by the introduction of a new DCLS must be notified when an application for approval is made.</p>
3	Are the proposed Code amendments regarding the preparation of RTD schedules and dispatch instructions appropriate? What parts do you agree or disagree with?	<p>Transpower cannot fully assess these fundamental changes without a clear understanding of how the current Code has been adapted into the proposed Code in this consultation document. More time is required to carry out this investigation in detail.</p> <p>We have, however, carried out initial analysis of the proposals and identified a number of concerns:</p> <ul style="list-style-type: none"> • renaming the dispatch schedule as the RTD schedule (when the dispatch schedule is only one of a series of RTD schedules) may cause confusion; • removing the clauses that recognise the need to adjust the dispatch schedule as an iterative process.

Question number	Question	Transpower Response
		Transpower does not feel that it is appropriate to be spending time on this non-critical work while section 42 initiatives have priority.
4	Are the proposed amendments to dispatch compliance provisions appropriate? What parts do you agree or disagree with?	Dispatch compliance is an important component of the DD proposal. Without compliance the quality of the bids provided and the dispatch purchasers' level of adherence to the quantity dispatched will affect the overall measure of demand and hence both the ability to forecast prices and the security of the market system.
5	Do you agree with the proposals for constrained on and constrained off payments, including the payment of both constrained on and constrained off amounts to dispatch purchasers, the proposed calculation of those payments, and the funding of those payments by all purchasers in proportion to MWh purchased?	Transpower does not have a view on this issue.
6	How important do you consider the IL co-optimisation to be as part of the overall DD proposal? Do you agree with the proposed approach?	This is a crucial part of DD design. Demand participants electing to be dispatched must have their IL co-optimised with their dispatchable load.
7	If you are an electricity user at a GXP which is likely to be regarded as a non-conforming GXP if the proposed DSBF regime is approved, do you consider it likely that you would participate in the proposed dispatchable demand regime? Please provide an indication (confidentially if you wish) of how much load you would expect to subject to dispatch, the circumstances in which you might submit a dispatch bid for a trading period, and the possible price levels at which dispatch bid bands might be submitted.	Not applicable.

Question number	Question	Transpower Response
8	Do you agree with the broad design of the DD proposal?	Transpower agrees that DD is an important market design tool. However, the current proposal is an overly complex way to try to achieve the desired outcome.
9	Do you propose any changes to the proposed Code amendments set out in Appendix 4?	Transpower has provided comments on the draft Code provisions in Section 6 of this submission, listed in the order of the clauses in the Code. As well as containing high level comment, this also includes comments on use of defined terms, typographical errors and incorrect references to assist with legal drafting.
10	Do you agree with the proposed approach of implementing the DD proposal only at non-conforming GXPs, while preserving the option of proposing implementation to conforming GXPs at a later stage?	Yes.
11	Is it appropriate that the dispatchable demand proposal does not propose changes to gate closure for bids or dispatch bids, but rather that a review of gate closure provisions will be conducted by the Authority as a separate proposal?	Yes.
12	Do you agree with the material contained in the regulatory statement? In particular, do you expect the DD proposal to have a positive NPV?	<p>Transpower has no specific comments to make about the extent to which the proposal is expected to have a positive NPV.</p> <p>However, Transpower would like to clarify that it has not undertaken a detailed design and costing exercise that examines the expected benefits. In the absence of such information, Transpower cannot comment on the expected level of savings indicated in the Authority's regulatory statement.</p>

6 Proposed changes to Code drafting

Transpower has reviewed the proposed Code amendments and found a number of areas where there is a lack of clarity which would affect Transpower's ability to implement the provisions as drafted. These include high level comment, as well as comments on the use of defined terms, typographical errors and incorrect references to assist with legal drafting.

Should the Electricity Authority wish, Transpower would be happy to discuss these issues further.

Type of change	Part	Clause	Sub- Clause	Sub-Sub-Clauses	Feedback
DD	8				Approval of a DCLS must be against a set of technical codes which clearly define the obligations and technical standards each dispatchable load purchaser is required to comply with in order to enable the system operator to plan to comply with, and actually comply with, the principal performance obligations. Such technical codes must be included in the final DD Code changes.
DD	1	demand-side order			If the expression of the objective function as a mathematical formula is to be replaced, Transpower would suggest that the wording not try to mimic the algebra but instead be a more general statement, and any detail be provided by reference to the mathematical formulation. If this action is taken, there is no need for the term "demand-side order". As it stand, the definition is not sufficient to capture the demand side variables in the objective function.
DD	1	demand-side order			There is a typographical error in this definition: "dispatchable nominated bids" should read "nominated dispatch bids".

Type of change	Part	Clause	Sub- Clause	Sub-Sub-Clauses	Feedback
DD	1	dispatch capable load station			Query whether there should be a definition of "device". For example, would standby generation be considered a "device" for the purposes of the DD provisions?
DD	1	dispatch capable load station identifier			There is a typographical error in this definition: "dispatch-capable station" should read "dispatch-capable load station".
DD	1	generation order			There are two typographical errors in the last sentence of this definition: "This is because volumes for intermittent generators is are subtracted ..."
DD	1	half hour metering information			This definition is not proposed to be changed, but it needs to be extended to cover metering information about dispatch purchasers.
other	1	model formulation			This is a circular reference. Suggest changing to "model formulation means the mathematical description which is..."
DD	1	non-dispatch-capable load			Incorrect spelling – should be "dispatch-capable"
other	1	real time dispatch schedule			This is a circular reference. The definition should include the purpose of the schedule.
DD	13	3A			The RM and CM should be made aware that when a DCLS is approved and when status is revoked. They also need to know the codes being used. The timing for this information flow needs to be confirmed with the service providers.

Type of change	Part	Clause	Sub-Clause	Sub-Sub-Clauses	Feedback
DD	13	3A	(2)		The schedule needs to include a requirement to notify the GO of the changes to an approval. The timing of any changes needs to allow the GO sufficient time to amend its system (should also apply to 13.6.6 and 13.6.12).
DD	13	3A	(2)		As all obligations for DD lie with the purchaser, it is important that, if a DCLS moves between purchasers, that the system operator ensure that all items approved of in Schedule 13.6 remain in place. Approval therefore needs to be reassessed upon change of ownership of purchaser.
DD	13	3A	(3)		The guidelines should include that purchasers need to set up metering arrangements and provide a reasonable time for the systems to be configured. The approval start date should be conditional on the purchaser and the GO agreeing the metering information arrangements.
DD	13	3A	(3)		When do the guidelines need to be published by? Is it the date of implementation of DD?
DD	13	3B			Does the requirement to have the modelling system "in place at all times" recognise that it will not be available when the system operator has to revert to Stand Alone Dispatch (SAD)?
other	13	7	(1A)		Inaccurate bids lead to security concerns and allowing roll-over nominated bids may lead to a lack of accuracy. The message given by (1A) conflicts with the intent of clause (1) in which all non-dispatchable purchasers at a non-conforming GXP MUST submit a bid.

Type of change	Part	Clause	Sub-Clause	Sub-Sub-Clauses	Feedback
other	13	7AA			There is an inconsistency between clause (a) which has an unlimited time frame (i.e. "any time") and (b) which has a limited timeframe of "earlier than 2 hours". Suggest removing the words "at any time".
DD	13	19A	3	(a)(ia)	There are security/operational impacts that result from revising a nominated bid's type from nominated dispatch bid to nominated non-dispatch bid. This effectively removes a dispatchable option from the price stack/offers which could create reserve/energy shortfalls. Can be managed as per current processes, but would want some time to analyse and, if required, activate appropriate measures including industry notification. Suggest a 2 hour gate closure apply here. Purchasers still have the bona fide option close to real time if circumstances unexpectedly change.
other	13	38	2	(b)(i) & (ii)	The tense is incorrect, implying events happen in the wrong order. Suggest replacing "co-optimised" with "to be co-optimised".
DD	13	38	2	(b) (ii)	Co-optimisation for IL with nominated dispatch bids must be compulsory where the quantity of IL available is interrelated with the quantity of electricity that will be purchased by a purchaser's dispatch-capable load station at the same grid exit point or interruptible load group GXP.
other	13	39			This does not cover IL as it refers to ancillary agents that are generators.
other	13	40			It is not clear why this was deleted – this was the equivalent to 13.39 for ancillary service agents that offered IL. (Note – can only be enforced if co-optimisation is compulsory)

Type of change	Part	Clause	Sub-Clause	Sub-Sub-Clauses	Feedback
other	13	45	(a)		Consider whether this clause should reference 13.17 as well as 13.18 and 13.19.
DD	13	57	(a)		The clause refers to DCLS – however, as it is only possible to dispatch what is offered, it should refer to a DLS.
other	13	59			Deleting this clause removes detailed requirements about what the PRS and NRS must specify, which potentially affects what information is required to be provided to the clearing manager under 13.58(4). This clause should be reinstated.
other	13	59			Clause 13.59 is referred to in clause 13.104. This clause needs to be reinstated or clause 13.104 rewritten to take account of the deletion.
other	13	68A & B			Renaming the dispatch schedule as the RTD schedule (when the dispatch schedule is only one of a series of RTD schedules) may cause confusion. In order to be satisfied that all uses of the term RTD schedule are appropriate, the system operator would need to perform a detailed review of the appropriate sections before the Code relating to the RTD schedule is gazetted. The inputs to the RTD schedule do not appear to reflect operational reality.
other	13	68A			This clause will be breached when stand alone dispatch is being used.

Type of change	Part	Clause	Sub-Clause	Sub-Sub-Clauses	Feedback
other	13	68B			A clause requiring the same information on reserves as in 13.58A(2)(g) needs to be added to 13.68B. (1)(a) contains information on reserve offers, but it should also capture other information such as bona fides.
other	13	68B			This entire clause needs to be redrafted to take into account the requirements of former Schedule 13.3 (7). Note that the treatment of intermittent generation appears to be different.
other	13	68B	(1)	(f)	There are two typographical errors in this paragraph: "risk management tool" should be "reserves management tool" and "real time schedule" should be "real time dispatch schedule".
other	13	68B	(1)	(f), (g), (h)	This clause recognises that it is necessary to capture the role of RMT, but only contains some of the considerations – e.g. frequency, which is a more important consideration than voltage, is missing. Unless an exhaustive list is included here it is better simply to capture the requirements under clause (h).
other	13	68B	(1)	(h)	The previous drafting made it clear that adjustments could be made iteratively until the dispatch objective was met (refer to Schedule 13.3 13(3) which has been deleted in the draft Code). This ability is still required for the occasional times that it is necessary (all output adjustments would be discretionary and reported as such).
other	13	68C			It is not appropriate to publish all (if any) prices from instances when RTD is used as a study tool. This could result in participants responding to pricing signals that do not reflect how system dispatch is actually being implemented.

Type of change	Part	Clause	Sub-Clause	Sub-Sub-Clauses	Feedback
other	13	68C			The prices and reserve prices from the real time dispatch schedule should be specified to be "indicative" prices and reserve prices (as in 13.90(1)(a)) because they will not necessarily be provisional or final prices.
other	13	70			Clause 70 (a) still needs to be retained. There is an obligation on the system operator to use reasonable endeavours to make changes as soon as practicable during a period of readjustment; the system operator may exercise discretion to depart from the schedule to meet the dispatch objective.
other	13	71	(k)		The system operator needs to retain the right to prepare the order in which reserves may be called as specified by the system operator from time to time. For example, when there are localised problems not recognised by SPD as being affected by reserves in an area – i.e. if energy in an area is required to be fully utilised to negate transmission issues, or reserves in an area are not fully available due to a constraint applying to energy exiting the area.
other	13	72			The obligation to send out all dispatch instructions for a real time dispatch schedule does not take into account the fact that some schedules are prepared for purposes other than dispatch. During the night it may not make sense to send out all dispatch instructions either. It is important to leave in the phrase "in implementing each dispatch schedule".

Type of change	Part	Clause	Sub-Clause	Sub-Sub-Clauses	Feedback
other	13	72	(1)		<p>Requiring dispatch of each RTD (except below the 1MW threshold) is a significant change that has serious operational ramifications.</p> <p>Currently the system operator prepares and adjusts RTDs iteratively until it is satisfied the dispatch objective will be met. Only then does the system operator issue dispatch instructions. Does not take into account any amendments needed to depart from the dispatch schedule or allow for test RTD solutions that are not dispatched.</p>
other	13	72	(2)		<p>The system operator would prefer that 72(2) revert to the current wording of 72, with a minor change to take account of dispatch purchasers. By making 13.72(2) more specific (to offers, dispatch bids and reserve offers), certain other types of dispatch instructions have been excluded, e.g. voltage instructions.</p>
other	13	72	(2)	(a)	<p>There is a typographical error in this clause – need to delete the word "for". (However, note comment above on 13.72(2)).</p>
other	13	72	(4)		<p>This is a change in emphasis. Previously the clause stated that purchasers did not have to comply with system operator instructions – the new wording would require compliance by the purchasers as long as the system operator issues an instruction.</p>
other	13	72	(1)		<p>Suggest retaining the word 'formulate' because not all dispatch instructions are a direct output of RTD (e.g. voltage, reactive power).</p>

Type of change	Part	Clause	Sub- Clause	Sub-Sub-Clauses	Feedback
DD	13	73			The title needs to be amended to include dispatch instructions to "generators, ancillary service agents and dispatch purchasers".
other	13	77			Deletion of this clause means that the system operator is no longer required to send all types of dispatch instructions to the clearing manager, e.g. voltage, reactive power, because these are not covered under 13.78. Note – The system operator intends to continue to send the information to the clearing manager.
other	13	79			The use of the term 'participant' in this clause is too broad – it is intended to be limited to generators, dispatch purchasers and ancillary service agents, not all participants.
DD	13	81			There is a typographical error in this clause: need to remove the word "relevant" before "dispatchable load purchaser" as it replicates the word relevant at the beginning of the list.
other	13	82	(c)		This clause has been removed as it refers to 13.86, which has been deleted. However, we do not agree with the removal of 13.86 for parties other than co-generators, in which case clause 82(c) should be reinstated.
other	13	82	(g)		The drafting of paragraph (g) needs to be reworked as it does not flow on from the initial statement at the start of section 13.82. Suggest making paragraph (g) a separate clause.

Type of change	Part	Clause	Sub-Clause	Sub-Sub-Clauses	Feedback
other	13	82	(g)	(ii)	As per above comment, we do not agree with revoking clause 13.70, so this reference should be retained. (Note, under current drafting, 13.70 has been partially replaced by 13.72(3) so, at a minimum, it should refer to 13.72(3)).
other	13	86			This clause should be reinstated as it removes guidelines around dispatch compliance for parties other than co-generators. These guidelines are necessary, especially in relation to instructions "that were last complied with", as the system operator will not know this information since only changes > +/- 1 MW are actioned.
other	13	88	(4)		The system operator runs a check before running an RTP schedule to ensure all information is available. This operational practice is still required and, therefore, this requirement should be reinstated.
other	13	88A			The system operator needs to carry out a thorough review of this clause to determine whether it is technically correct and whether the changes in respect of DLS are workable. A comparison to schedule 13.3 (6) is also necessary. We have not been able to achieve this within the four week consultation period, but it needs to be performed before the Code is gazetted.

Type of change	Part	Clause	Sub-Clause	Sub-Sub-Clauses	Feedback
other	13	88A	(b)		The ability to use a reasonable estimate if the data is unavailable has been removed (compare with former Schedule 13.3 6(b)). This is a material change that is potentially not workable but cannot be fully assessed until the comparison has been done.
other	13	88A	(f)		There is a typographical error in this paragraph: "risk management tool" should be "reserves management tool".
other	13	88A	(h)		The system operator does not use RTP to meet the dispatch objective.
other	13	90	(1)		The system operator needs to complete the schedules before it can notify participants. The wording 'preparing' should be amended to 'completing'.
other	13	90	(2)		Type of average needs to be stated – "time weighted" should not be removed.
other	13	90	(3)		There is a typographical error in this paragraph: "reasonable" should read "reasonably".
other	13	95			This clause should include that reserve prices from the schedules should not be binding.
DD	13	96	(b)		There is inequity of treatment between those purchasers being dispatched and those responding to signalled prices. The latter may have their movement of load restricted by the system operator; this does not apply to dispatched load.
other	13	102	(b) & (c)		The clauses that have been removed do not appear to have been replaced with like-for-like information. For example, the existing drafting refers to the NRS and divergence from the dispatch schedule, whereas the new clauses refer to the PRS and unusual differences between the RTDS and PRS.

Type of change	Part	Clause	Sub-Clause	Sub-Sub-Clauses	Feedback
other	13	102	(c)		What is the definition of "unusual differences"?
other	13	104			This clause refers to clause 13.59 which has been deleted.
DD	13	138A			There is a typographical error in this paragraph: "dispatched" should be in bold.
DD	13	138A			This covers the dispatch purchaser's obligation to provide metering information to the GO and pricing manager. The code only requires the data to be provided for trading periods where the DSL is dispatched. This is unacceptable from a data processing point of view, as it would result in gaps in data where dispatch does not take place. As with generation information the data need to be provided from the agreed approval date until such time as the approval is revoked or withdrawn.
DD	13	141	(1)	(aa) & (b)	These calculations include input from the grid owner; therefore it is a necessary condition that the grid owner be informed when a DCLS is likely to be approved as its calculations for 13.141 will need to be updated.
DD	13	141	(1)	(b)	L _{DLS} is only applied to the GXP calculation. There are instances where a GXP can change to a GIP depending on the amount of embedded generation, but this is not provided for in the draft. The treated of the L _{MA} calculation when it is negative should also be outlined.
other	13	141	(1)	(e)	Suggest replace with "by grid owners" since subpart 1 of part 13 contemplates that there could be more than one grid owner.
DD	13	166		-	Need to add "dispatch purchaser" to the title.

Type of change	Part	Clause	Sub-Clause	Sub-Sub-Clauses	Feedback
other	13	192	(c)		The reference to dispatch instructions should be singular (i.e. dispatch instruction) for consistency with (a) and (b).
other	13	194	(1A)		There is a typographical error in "dispatch" in the definition of P _b .
other	13	194	(2)	(ba)	It would be better to refer to "applicable maximum ramp rate" instead of "maximum ramp rate".
other	13	202	(d)		The reference to dispatch instructions should be singular (i.e. dispatch instruction) for consistency with the rest of this clause.
other	13	202	(d)		There is a typographical error in "dispatchable load station".
other	13	204	(1)	(b)(iia)	It would be better to refer to "applicable maximum ramp rate" instead of "maximum ramp rate".
other	13	208	(c)		There is a typographical error in this paragraph – the reference should be to "grid exit point".
DD	12	208	(b)		This clause incorrectly refers to "dispatch load station", it should refer to "dispatch purchaser".
other	13	212	(5)	(a)	There is a typographical error in this paragraph – "generate" needs to be changed to "generates".
other	13	212	(5)	(b)	Similarly, "purchase" needs to be changed to "purchases".
DD	Schedule 13.1	Form 6 and 6A			Amalgamate to be one form – in the format of 6A – and identify on the form the dispatch capable load identifier where applicable.
DD	Schedule 13.1	Form 6A			Submitting an IL bid as a percentage of scheduled bid quantity does not reflect any actual or likely physical scenario.

Type of change	Part	Clause	Sub- Clause	Sub-Sub-Clauses	Feedback
other	Schedule 13.3				All changes to this section need review from an SPD expert. This cannot be achieved within the four week consultation period, but needs to be performed before the Code is gazetted.
other	Schedule 13.3	1	(1A)		This will need to be amended once the term "demand-side order" is re-assessed. The modelling system does not schedule all types of demand. Some demand is treated as a fixed input to the schedule, i.e. where the demand is modelled using the demand forecast or where a measurement of actual demand is used ex post (RTP, final pricing).
other	Schedule 13.3	1	(2)		There is a duplication of the words "must be" in this paragraph.
other	Schedule 13.3	8			Replace the mathematical formula of the objective function in the Code with a general statement of intent with a reference to the model formulation for the precise mathematical definition.
other	Schedule 13.3	8	(2)		This clause needs to be retained. The objective function is meaningless without a specific obligation to maximise it. This is the basis of dispatch.
other	Schedule 13.3	9	(e)		There is a typographical error in this paragraph in the word "offers".

Type of change	Part	Clause	Sub-Clause	Sub-Sub-Clauses	Feedback
other	Schedule 13.3	9A	(c)	(ii)	<p>For all these schedules the quantity (initial MW) is not from metering but is an instantaneous value from SCADA or a reasonable estimate, e.g. refer to the wording of 13.141(1)(a)(i) and (ii).</p> <p>This point may have already been recognised and that is why the term metering is not in bold. However, a less confusing term to use instead of metering would be "measured".</p> <p>It is important to reinstate the fact that this can be a reasonable estimate.</p>
DD	Schedule 13.3	10	(c)	(ii)	See comment above for generation (schedule 13.2 9A(c)(ii)) – this applies to DD as well.
other	Schedule 13.3	11			Some of the list of sub-clauses refers to modelling considerations and not to constraints. The wording is misleading.
other	Schedule 13.3	11			The reference to the accuracy as specified in the model formulation must be retained.
other	Schedule 13.3	12	(2)	(b)	It is not clear why the words "(whether or not this is a generator's generator)" have been deleted. Does this change the intent of this clause, or was it made for sense/clarity?
other	Schedule 13.3	12	(4)		Paragraph (ii) does not follow from the introductory wording in (4)(a). Suggest moving the words "must not be greater than the maximum quantity that" from clause 4(a) into clause 4(a)(i).
other	Schedule 13.3	13	(3)		The iterative nature of the RTD process is an important aspect that is missing from the proposal and needs to be re-included.

Type of change	Part	Clause	Sub-Clause	Sub-Sub-Clauses	Feedback
other	Schedule 13.3	13	(4)		Need to retain this clause, or an equivalent. This could be added to pricing inputs under clause 13.141.
other	Schedule 13.3	15	(e)		This is a significant change but the intention of this change is not clear. There are constraints applied to RTD that are not currently applied to the final pricing schedule (e.g. bona fide constraints).
other	Schedule 13.3	17			Removing this clause is material – it should be retained to provide the considerations taken into account when calculating prices.
DD	Schedule 13.6	5			There is a typographical error in the title in the word "request".
DD	Schedule 13.6				Should be changed to read 20 business days – or such longer period as agreed by the system operator and the applicant or EA.
DD	Schedule 13.6	9	(1)	(a)	This is an unusual provision; documentation should be kept at the Registry.
DD	Schedule 13.6	9	(2)	(e)	Approvals may not be for a limited time only – this should be clear in the drafting of clause 7.
DD	Schedule 13.6	11			How is it envisioned that these system operator conditions be enforced? What is the process if a condition is not met?
DD	15	5B			This requires DCLS metering information supplied to the RM to include a loss code. Assuming these loss codes are held in the registry, who is responsible for maintaining them? For ICPs on local and embedded networks, this would likely be the network owner. For a grid direct connection the default GRID loss code may not be appropriate if the DCLS is embedded within the plant.